

AMENDED CLAIM SET:

1. (currently amended) A method for controlling a concentration of an electrolytic solution in a solution tank for making an electrolytic treatment of a metallic material in said electrolytic solution in an electrolytic treatment bath, comprising steps of:

measuring an acid concentration of acid in said electrolytic solution in said electrolytic treatment bath;

generating a salt concentration by ionizing part of said metallic material in said electrolytic solution in said electrolytic treatment bath;

measuring a salt concentration of salt which is generated by ionizing part of said metallic material in said electrolytic solution in said electrolytic treatment in said electrolytic treatment bath; and

adding at least one of a diluting liquid and a fresh acid to said electrolytic solution in said solution tank according to said measured acid concentration, said measured salt concentration, and a current value of an electrolytic current supplied during said electrolytic treatment; and, after said adding step,

feeding said electrolytic solution in said solution tank to said electrolytic treatment bath.

2. (original) A method as claimed in claim 1, further comprising a step of calculating a feed cycle of adding a predetermined amount of said diluting liquid from said measured salt concentration and said current value.

3. (currently amended) A method as claimed in claim 2, further comprising steps of:

adding a correction value to said measured acid concentration, to obtain a corrected acid concentration, said corrected acid concentration being set as a new measured acid concentration;

calculating a difference from said new measured acid concentration to a target acid concentration; and

adding said fresh acid to said electrolytic solution when said difference is larger than a predetermined limit value.

4. (currently amended) A method as claimed in claim 2, for controlling a concentration of an electrolytic solution for making an electrolytic treatment of a metallic material in said electrolytic solution, comprising steps of:

measuring an acid concentration of acid in said electrolytic solution;

generating a salt concentration by ionizing part of said metallic material in said electrolytic solution;

measuring a salt concentration of salt which is generated by ionizing part of said metallic material in said electrolytic solution in said electrolytic treatment;

adding at least one of a diluting liquid and a fresh acid according to said measured acid concentration, said measured salt concentration, and a current value of an electrolytic current supplied during said electrolytic treatment; and

calculating a feed cycle of adding a predetermined amount of said diluting liquid from said measured salt concentration and said current value,

wherein when said current value is I , and A and B are optional constants, a standard cycle T_0 for adding said diluting liquid to said electrolytic solution is $T_0 = A/I + B$, and

wherein when said measured salt concentration is PV_a , said objected salt concentration is SV_a , and C and D are optional constants, said feed cycle T for adding the predetermined amount of said diluting liquid is, $T = T_0 \times (1 + C \times (PV_a - SV_a)) + D$.

5. (original) A method as claimed in claim 4, wherein said metallic material is an aluminum plate used for a substrate of a PS plate.

6. (original) A method as claimed in claim 5, wherein said acid is hydrochloric acid.

7. (cancelled).

8. (cancelled).